

In the Claims:

1-14 (Canceled).

15. (Currently Amended) **[[A]] An isolated** polynucleotide comprising a nucleotide sequence that encodes a metal ion affinity peptide having a formula of $\text{NH}_2\text{-(His-Asn)}_n$ or $\text{(His-Asn)}_n\text{-COOH}$, where $n=6$ **(SEQ ID NO: 15)**.

16. (Previously Presented) The polynucleotide according to claim 15, wherein the polynucleotide comprises a nucleotide sequence encoding a fusion protein comprising a polypeptide and the metal ion affinity peptide, wherein the metal ion affinity peptide is fused to an amino- or carboxy-terminal amino acid of the polypeptide.

17. (Original) A recombinant vector comprising a polynucleotide according to claim 15.

18. (Original) A recombinant host cell comprising a recombinant vector according to claim 17.

19. (Original) The recombinant host cell according to claim 18, wherein said cell is a prokaryotic cell.

20. (Original) The recombinant host cell according to claim 18, wherein said cell is a eukaryotic cell.

21-25 (Canceled).

26. (Original) A kit for purifying a protein, comprising:
a) a recombinant vector according to claim 17; and
b) a metal ion affinity resin.

27. **(Original)** The kit according to claim 26, further comprising:
an extraction buffer;
a wash buffer; and
an elution buffer.
28. **(Original)** The kit according to claim 27, further comprising a column.
29. **(Canceled)**
30. **(Currently Amended)** [[A]] **An isolated** polynucleotide comprising a nucleotide sequence that encodes a metal ion affinity peptide having the amino acid sequence NH₂-His-Leu-Ile-His-Asn-Val-His-Lys-Glu-Glu-His-Ala-His-Ala-His-Asn **(SEQ ID NO: 1)** or His-Leu-Ile-His-Asn-Val-His-Lys-Glu-Glu-His-Ala-His-Ala-His-Asn-COOH **(SEQ ID NO: 1)**.
31. **(Previously Presented)** The polynucleotide according to claim 30, wherein the polynucleotide comprises a nucleotide sequence encoding a fusion protein comprising a polypeptide and the metal ion affinity peptide, wherein the metal ion affinity peptide is fused to an amino- or carboxy-terminal amino acid of the polypeptide.
32. **(Previously Presented)** A recombinant vector comprising a polynucleotide according to claim 30.
33. **(Previously Presented)** A recombinant host cell comprising a recombinant vector according to claim 30.
34. **(Previously Presented)** The recombinant host cell according to claim 33, wherein said cell is a prokaryotic cell.
35. **(Previously Presented)** The recombinant host cell according to claim 33, wherein said cell is a eukaryotic cell.

36. **(Previously Presented)** A kit for purifying a protein, comprising:
a) a recombinant vector according to claim 32; and
b) a metal ion affinity resin.
37. **(Previously Presented)** The kit according to claim 36, further comprising:
an extraction buffer;
a wash buffer; and
an elution buffer.
38. **(Previously Presented)** The kit according to claim 37, further comprising a column.
39. **(Currently Amended)** **[[A]]** **An isolated** polynucleotide comprising a nucleotide sequence that encodes a metal ion affinity peptide having a formula of
 $\text{NH}_2\text{-(His-Asn)}_n$ or $\text{(His-Asn)}_n\text{-COOH}$, where $n=3\text{-}5$ **(SEQ ID NOs:28-30)** or $7\text{-}10$ **(SEQ ID NOs:31-34)**.
40. **(Previously Presented)** The polynucleotide according to claim 39, wherein the polynucleotide comprises a nucleotide sequence encoding a fusion protein comprising a polypeptide and the metal ion affinity peptide, wherein the metal ion affinity peptide is fused to an amino- or carboxy-terminal amino acid of the polypeptide.
41. **(Previously Presented)** A recombinant vector comprising a polynucleotide according to claim 39.
42. **(Previously Presented)** A recombinant host cell comprising a recombinant vector according to claim 41.
43. **(Previously Presented)** The recombinant host cell according to claim 42, wherein said cell is a prokaryotic cell.

44. **(Previously Presented)** The recombinant host cell according to claim 42, wherein said cell is a eukaryotic cell.
45. **(Previously Presented)** A kit for purifying a protein, comprising:
a) a recombinant vector according to claim 41; and
b) a metal ion affinity resin.
46. **(Previously Presented)** The kit according to claim 45, further comprising:
an extraction buffer;
a wash buffer; and
an elution buffer.
47. **(Previously Presented)** The kit according to claim 46, further comprising a column.